

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



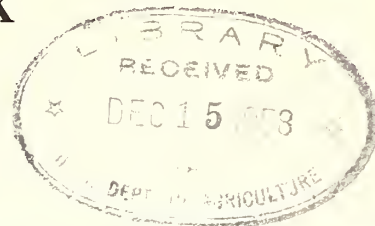
4292.9  
So3um  
Cop. 2

# UMATILLA RIVER, WALLA WALLA RIVER and WILLOW CREEK WATERSHEDS

## WATER SUPPLY OUTLOOK

as of

APRIL 1, 1954

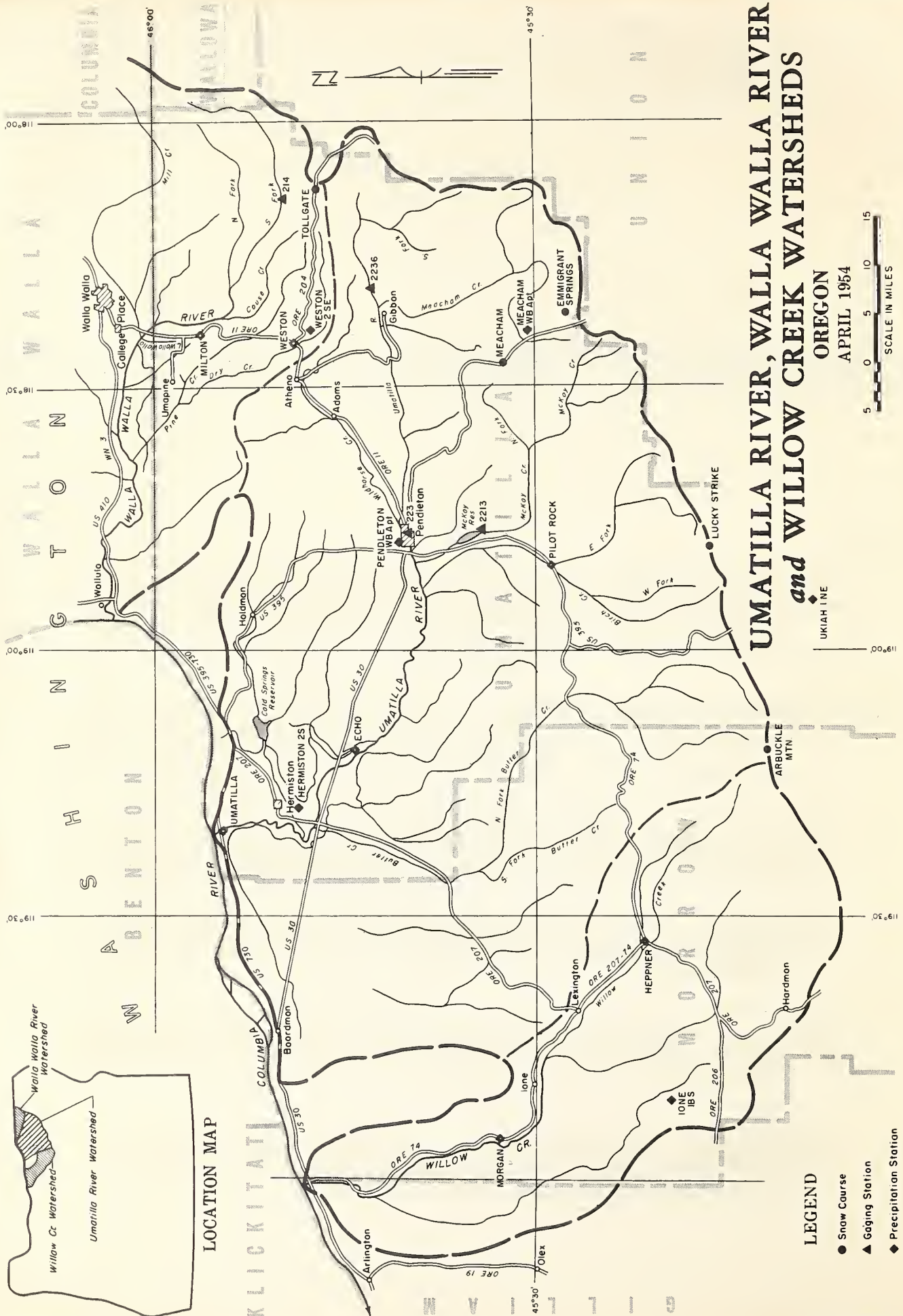


U. S. SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

### S U M M A R Y

Page

- 1 Water Supply Outlook: Adequate irrigation water supplies for Walla Walla area seem assured, but supplies for Umatilla and Willow Creek area will be satisfactory only if normal or above normal rains are received in early summer.
- 2 Streamflow Forecasts: Forecasts on the Walla Walla is for 83 percent average flow. The Umatilla is forecast at only 61 percent, the 10 year average and the flow of McKay Creek is set at 59 percent average.
- 2 Reservoir Storage: Cold Springs reservoir is full, but McKay reservoir, with 43,868 acre feet in storage, needs about 30,000 a.f. to fill.
- 2 Soil Moisture: Soil moisture is satisfactory in the mountain watersheds, but surface and subsoils in the valley lands are slightly below normal.
- 3 Snow Cover: Snow-cover on the Walla Walla is 91 percent average, but only 74 and 82 percent, respectively, on the Umatilla and Willow Watersheds.
- 3 Precipitation: Fall precipitation in the area was 76 percent normal. Winter precipitation was 82 percent normal. September through March precipitation was 80 percent normal.





# WATER SUPPLY OUTLOOK - For April-September, 1954<sup>a</sup>

Source of Water	Acreage Irrigated	Outlook
<u>Walla Walla Basin</u>		
Mill Creek		Supplies water for city of Walla Walla. Flow will be adequate and will be about 20,000 a.f. during the next six months.
North Fork Walla Walla	124	Flow will be below normal but should be adequate for this year.
South Fork Walla Walla	348	Adequate for irrigation but below normal in flow.
Main Walla Walla	1,344	Adequate for usual irrigation.
Little Walla Walla	13,700	Adequate for most irrigation but late water rights on Hudson Bay and Plainview Ditches will be short late in season.
Mud Creek	373	See Little Walla Walla outlook.
Dry Creek	1,207	Adequate for usual irrigation. Late season water will be short.
Pine Creek	759	Adequate for usual irrigation. Late season water will be short.
Dugger Creek	595	See Little Walla Walla outlook.
Johnson Creek	110	See Little Walla Walla outlook.
<u>Umatilla Basin</u>		
Main Umatilla	12,074	Adequate water supplies will be available only if river flow holds up as forecast. Late season flow dependent upon early summer rains.
Umatilla and Cold Springs	6,000	Adequate water supplies will be available only if river flow holds up as forecast.
Umatilla and McKay Res.	9,693	Adequate water supplies will be available only if forecasted inflow to reservoir is received.
McKay Creek	280	Sufficient for one good irrigation. Late season water will be short.
Birch Creek	1,000	Sufficient for one good irrigation. Late season water will be short.
Butter Creek	6,000	Sufficient for one good irrigation. Late season water will be short.
<u>Willow Creek Basin</u>		
Willow and Rhea Creeks	11,780	Sufficient for one good irrigation. Late season water will be short.

a— Assuming normal meteorological conditions during the April - September period.

STREAMFLOW FORECASTS<sup>a</sup> - As of April 1, 1954

No.	Gaging Station Name	Seasonal Streamflow in 1000a.f.			1954 as % of Avg
		Forecast 1954 Apr;Sept.	Apr-July	Avg. 1942-51	
214	Walla Walla S.Fk. nr. Milton	62.0	-- --	75.1	83
214	Walla Walla S.Fk. nr. Milton	-- --	49.0	61.8	79
2236	Umatilla R., nr. Gibbon	61.0	-- --	95.8	64
223	Umatilla R., at Pendleton	115.0	-- --	188.1	61
223	Umatilla R., at Pendleton	-- --	112.0	183.5	61
2213	McKay Cr., nr. Pilot Rock	19.0	-- --	32.0	59
2213	McKay Cr., nr. Pilot Rock	-- --	18.7	31.8	59

RESERVOIR STORAGE

Reservoir	Usable Capacity 1000 a.f.	Thousand a.f. in storage about April 1, 1954			1954 as % of 10 yr. Avg.
		1954	1953	10 yr. Avg. 1942-51	
McKay	74.0	43.9	65.3	64.0	68
Cold Springs	50.0	50.0	44.2	47.9	104
Total	124.0		109.5	111.9	

SOIL MOISTURE

Soils in:	Fall Status	Current status as of April 1, 1954
Valleys (irrigated)	Wetter than normal	Surface and subsoil slightly below normal
Mountains	Fairly wet soils	Well wetted soils

SNOW COVER - As of April 1, 1954

Snow Course			1954		Water Content (in)		1954
No.	Name	Elev.	Snow Depth (in)	Water Content (in)	1953	Average	as % of Avg
-	below 4500'	-					
222	Emigrant Sprgs.	3925'	1.3	0.4	2.8	5.7	7
221	Meacham	4300'	11.2	3.3	8.9	8.6	38
	Average		-	1.8	5.8	7.2	25
-	above 4500'	-					
241	Arbuckle Mtn.	5400'	23.3	8.9	17.1	10.8	82
223	Lucky Strike	5050'	35.6	11.3	19.5	13.5	84
212	Tollgate	5070'	61.5	25.3	30.0	27.9	91
	Average		-	15.2	22.2	17.4	87
	Average (5 courses)		-	9.8	15.7	13.3	74

PRECIPITATION DATA

Station		Precipitation (inches)									Avg as %
Name	Elev.	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Avg	Normal*	of Normal
Echo	601	0.00	0.61	1.39	1.34	1.62	0.43	1.02	0.92	1.02	90%
Heppner	1950	0.03	1.23	1.98	1.84	1.16	0.62	1.12	1.14	1.24	92%
Hermiston 2S	624	0.00	0.60	1.45	0.88	1.22	0.35	0.84	0.76	0.87	87%
Ione 18S	1925	0.00	0.97	2.16	1.67	1.63	0.71	0.86	1.14	1.24	92%
Meacham WB Apt	4050	0.09	1.38	3.05	5.55	1.95	1.39	1.50	2.13	3.70	58%
Milton	1060	0.01	1.09	1.76	1.73	1.65 <sup>e</sup>	0.38	1.25	1.12	1.38	81%
Morgan	783	0.01	0.67	1.30	1.01	2.11	0.44	0.79	0.90	0.94	96%
Pendleton WB.AP	1489	0.16	0.71	1.58	2.00	1.30	0.48	0.65	0.98	1.41	70%
Pilot Rock	1640	T	0.82	1.61	1.76	1.57	0.61	1.05	1.06	1.24	85%
Ukiah INE	3340	0.09	0.82	2.02	2.29	1.54	0.75	1.25	1.25	1.61	78%
Umatilla	285	T	0.31	1.51	0.82	1.40	0.28	0.73	0.72	0.83	87%
Weston 2SE	2100	0.11	1.87	2.60	3.41	2.75	1.12	1.69	1.94	2.11	92%
Average		0.04	0.92	1.87	2.02	1.66	0.63	1.06	1.17	1.47	80%
Normal*		0.77	1.23	1.72	1.77	1.75	1.57	1.45			
Average as % of normal		5%	75%	109%	114%	95%	40%	73%			
Fall Avg as % of Fall											
Normal (Sept-Oct-Nov)				76%							

\* as published by USB e-estimated

